DRAFT ENVIRONMENTAL ASSESSMENT

SEA WING PARK RECREATION BEACH MANAGEMENT PLAN POOL 3, UPPER MISSISSIPPI RIVER DIAMOND BLUFF, WISCONSIN

ST. PAUL DISTRICT U.S. ARMY CORPS OF ENGINEERS MAY 2004

DRAFT ENVIRONMENTAL ASSESSMENT

SEA WING PARK RECREATION BEACH MANAGEMENT PLAN POOL 3, UPPER MISSISSIPPI RIVER DIAMOND BLUFF, WISCONSIN

MAY 2004

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 SUMMARY	1
2.0 INTRODUCTION	
3.0 AFFECTED ENVIRONMENT 3.1 SOCIAL AND ECONOMIC ENVIRONMENT 3.2 NATURAL RESOURCES 3.3 CULTURAL RESOURCES	4 4
4.0 SUMMARY OF ALTERNATIVES	6
5.0 ENVIRONMENTAL EFFECTS	
6.0 COORDINATION	
DRAFT FINDING OF NO SIGNIFICANT IMPACT	
CORRESPONDENCE	
ATTACHMENTS	

1.0 **SUMMARY**

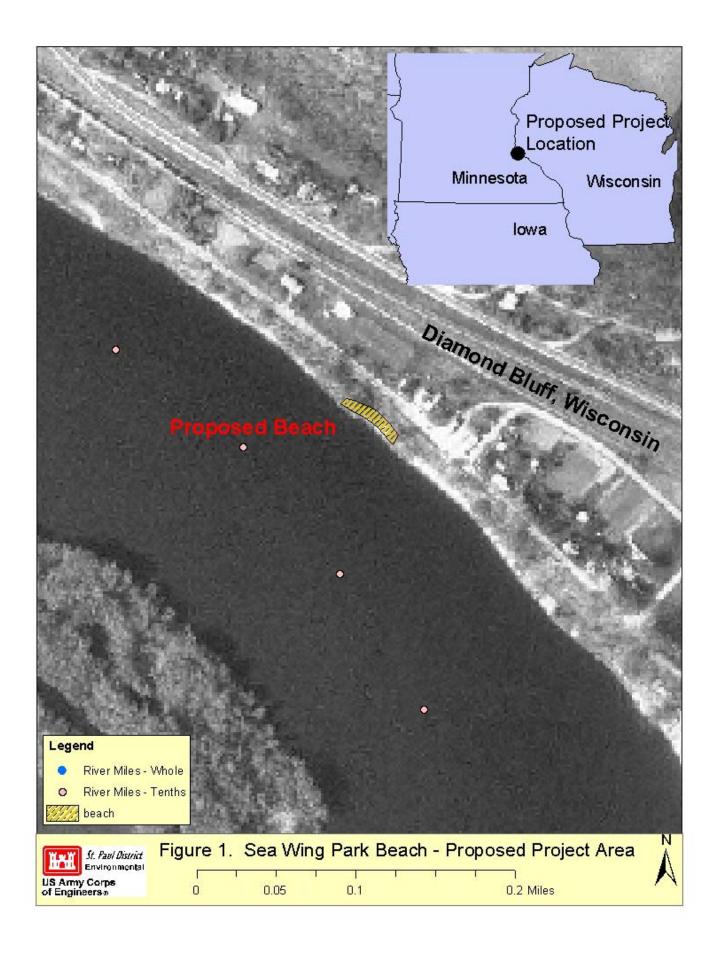
The St. Paul District, U.S. Army Corps of Engineers, in coordination with the State and Federal agencies, is planning to add a site to the Recreation Beach Management Plan for Pool 3 and Upper Pool 4, dated December 1998. That plan included an evaluation of the condition of sandy beach recreation areas in Pool 3 and Upper Pool 4 of the Upper Mississippi River. Following site selection, strategies for improving and enhancing areas were developed to provide safe and enjoyable beach sites for the recreating public while protecting the natural environment. Under that plan, site number 18 at Diamond Bluff, Wisconsin, was identified from river mile 800.4L (left descending bank) downstream to about river mile 799.6L. It was addressed as a potential site for beach enhancement; however, it was dropped from consideration because it was under private ownership. Since then, the town of Diamond Bluff has purchased some of this property and has requested assistance from the St. Paul District for beach enhancement. The plan proposed here is for Sea Wing Park at river mile 800.35L in Diamond Bluff, Wisconsin.

The selected alternative is to place dredged material at an average thickness of about 2.5 feet at the proposed beach site at Sea Wing Park. This would require about 2,500 cubic yards of coarse sand dredged material. The material would be placed by mechanical means from barges and may require minor access dredging. Access dredged material would likely be less than 100 cubic yards and would be placed on the beach site. No dredged material would be placed in the water. The work would be completed during the open-water season, likely during June 2004.

2.0 INTRODUCTION

2.1 PROJECT BACKGROUND

The Recreation Beach Management Plan for Pool 3 and Upper Pool 4 was completed in December, 1998. The plan included an evaluation of the condition of sandy beach recreation areas in Pool 3 and Upper Pool 4 of the Upper Mississippi River. The suitability of potential sites for beach improvement were evaluated based on the following factors: existing substrate, adjacent water depth, ground slope, vegetative cover, aesthetics, accessibility, proximity to other features in the pool, and ownership. Following site selection, strategies for improving and enhancing areas were developed to provide safe and enjoyable beach sites for the recreating public while protecting the natural environment. Under that plan, site number 18 at Diamond Bluff, Wisconsin was identified from river mile 800.4L (left descending bank) downstream to about river mile 799.6L. It was addressed as a potential site for beach enhancement; however, it was dropped from consideration because it was under private ownership. Since then, the town of Diamond Bluff has purchased some of this property and has requested assistance from the St. Paul District for beach enhancement. The plan presented here is for Sea Wing Park at river mile 800.35L in Diamond Bluff, Wisconsin (Figure 1.). The plan is being drafted as an addition to the 1998 beach management plan.



2.2 PURPOSE OF ACTION

The purpose of the project is to enhance the beach site at Sea Wing Park to improve its suitability for public use as a beach. The objectives for a suitable beach site would be met by the proposed project and include: existing sandy substrate, suitable adjacent water depth for boat access, suitable ground slope, lack of vegetative cover on the beach but nearby trees for shade, pleasing aesthetics, high accessibility from land and water, close proximity to a boat landing, and current public ownership of the site. The project would be constructed in a cost-effective manner with dredged material that would otherwise be placed at a designated upland disposal site. If the project were not completed by the District it is unlikely that the Town of Diamond Bluff would develop the beach due to a lack of available funding.

Federal authorities for this project are the River and Harbor Acts of January 21, 1927, and July 3, 1930. These authorize the operation and maintenance of a 9-foot navigation channel on the Upper Mississippi River.

2.3 APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

An environmental assessment has been conducted for the proposed actions, and a discussion of the impacts follows. As specified by Section 122 of the 1970 Rivers and Harbors Act, the categories of impacts listed in table EA-1 were reviewed and considered in arriving at the final determination. In accordance with Corps of Engineers regulations (33 CFR 323.4(a)(2)), a Section 404(b)(1) evaluation has been prepared and is included in Attachment 1 of this environmental assessment. A Finding of No Significant Impact may be signed after the public review period has elapsed, any issues have been resolved, and water quality certification has been received.

This assessment was prepared and the proposed work designed to comply with all applicable environmental laws and regulations, including the following: National Environmental Policy Act of 1969; Executive Order 11514, Protection and Enhancement of Environmental Quality (as amended in Executive Order 11991); Executive Order 11593, Protection and Enhancement of the Cultural Environment; Executive Order 11990, Protection of Wetlands; Clean Air Act of 1977; Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations; Clean Water Act of 1977; Endangered Species Act of 1973; Fish and Wildlife Coordination Act; National Historic Preservation Act; 40 CFR 1500-1508, Council on Environmental Quality, Regulations for Implementing Procedural Provisions of the National Environmental Policy Act of 1969.

2.4 FORMER APPLICABLE STUDIES

Former applicable studies are listed in Section 1 of the Recreational Beach Management Plan for Pool 3 and Upper Pool 4, dated December, 1998.

3.0 <u>AFFECTED ENVIRONMENT</u>

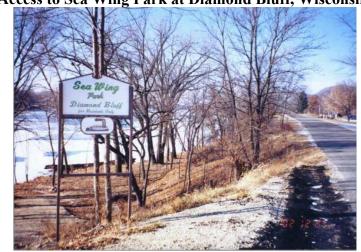
3.1 SOCIAL AND ECONOMIC ENVIRONMENT

The town of Diamond Bluff is located along the Upper Mississippi River in Pierce County, Wisconsin. Diamond Bluff had a population of 497 in 2002. The population of Pierce County was 37,172 in 2002 and had increased by 12.3% from 1990 to 2000. The median household income in Pierce County was \$49,551 as of 1999 and the unemployment rate was 5% as of 2003. As of 2000 the workforce was employed as follows: manufacturing, 22%; agriculture, 21%; construction, 12%; education, health, and human services, 13%.

Many beach sites within Pool 3 are historic dredged material placement sites that are no longer used by the Channel Maintenance Program. Dredged material has been placed at the proposed project site in the past; however, no record of such placement could be found.

Pool 3 has the third highest level of recreational boat activity among the pools of the Upper Mississippi River. The majority of this traffic is near the confluence of the St. Croix River at river mile 811.5 near Prescott, Wisconsin. The only major park in the pool is Lake Rebecca Municipal Park at Hastings, Minnesota. The nearest boat-launching facility to the proposed project is the Diamond Bluff Landing, located about one-third of a mile downstream.

The Sea Wing Park project was started by the town of Diamond Bluff in 2002 as a way to improve the recreational use of the area for its residents and the general public. The project area is already experiencing some recreational use for picnics, camping, and fishing.



Access to Sea Wing Park at Diamond Bluff, Wisconsin.

3.2 NATURAL RESOURCES

The Mississippi River and its backwaters contain a variety of habitats that support an abundant and diverse biota. The main channel provides deep and relatively fast-water habitat with a sandy substrate. The main channel border habitats contain the channel training structures,

or wing dams, which provide coarse immobile substrate. Backwaters include floodplain forests, sloughs, and backwater lakes.

The proposed project site is a narrow strip of floodplain forest habitat interspersed with some small patches of willow and sedge wetland areas. The floodplain forest community in pool 3 normally includes tree species such as cottonwood, silver maple, willow, and elm. Ground-cover species such as nettle and poison ivy are common and decrease the suitability of beach sites for recreational use. Currently, use of the proposed project site by wildlife is limited to smaller species more tolerant of human disturbance. Species such as raccoon, woodchuck, striped skunk, Eastern cottontail, terrestrial rodents, muskrat, mink, songbirds, and waterfowl would likely be found at the site periodically.



The proposed project site is immediately adjacent to main channel border habitat. This habitat type is characterized by its proximity to the main channel and the presence of channel training structures, or wing dams. The substrate of this habitat type is typically sand with some areas of gravel or silt. The wing dams provide coarse, rocky substrate. There is typically little vegetation. Game fish species that typically inhabit the channel boarder habitat include walleye, sauger, white bass, smallmouth bass, northern pike, yellow perch, and channel catfish. Other species include carp, drum, buffalo, suckers, and a variety of minnow species.

Main channel border habitat can also support healthy native mussel communities. Mussel surveys have been conducted at and near the proposed project site (Figure 2 and Table 1). A mussel survey was conducted by St. Paul District of the Corps of Engineers (Corps) at the proposed project site on April 15, 2004 (Survey ID# 2004041501). Thirty-two individuals of seven common species were collected at the site by wading in depths of 0.5 to 4 feet. No Federal- or State-listed species were collected. Five previous surveys in the area produced fewer individuals and no other species.

Two federally protected species can be found or historically occurred in Pool 3: the bald eagle (*Haliaetus leucocephalus*) and the Higgins eye mussel (*Lampsilis higginsi*). The Higgins' eye mussel has not been recorded in pools 3 or 4 in the last 35 years except for 100 individuals that were relocated to a site in upper pool 3 at river mile 813 in 2000, and 195 reared individuals

placed in Sturgeon Lake across the main channel from the proposed project site in 2003. Mussel surveys were conducted at or near the proposed project site by the Corps in 1994, 2000, and 2004. Attachment 1 summarizes the results of these efforts. Only 7 species of mussels were found in these surveys. Higgins eye was not collected, nor were any State-listed mussel species. There has been nesting activity by eagles in Pool 3; however, no active nesting sites are known to be present close to the project area.

3.3 CULTURAL RESOURCES

Archaeological research has been ongoing in the Diamond Bluff region since the late 19th century and the region is well known for its numerous archaeological sites. Cultural activity across the region spans from the Late Paleo period through modern times, although most of the research has focused on the Mississippian Tradition, specifically the Oneota Culture (e.g., the Mero site). Precontact site types include find spots, lithic and artifact scatters and mound and non-mound burials. A total of 21 archaeological sites are located within one-mile of the project area. No cultural resources have been identified within the Project area. The nearest mapped archaeological site (ca. 140 m to the north) is 47PI177, a now destroyed mound group. During the late 19th/early 20th century, Diamond Bluff hosted a shipbuilding yard (approximately one-half mile downstream of the beach). The Town Hall is likely an historic standing structure, although it has not been assessed for listing on the National Register of Historic Places (NRHP). The nearest site eligible for listing on the NRHP, 47PI559, is approximately one mile downstream of the Project area. For a more detailed history of archaeological investigations and cultural contexts, the reader is referred to Madigan and Schirmer (2001) and Pleger (1995).

4.0 SUMMARY OF ALTERNATIVES

4.1 NO ACTION

Under the no-action alternative the St. Paul District would not enhance the beach at Sea Wing Park by placing dredge material at the site. The town of Diamond Bluff would likely develop the park as shown in Figure 2 with the exception of the addition of material at the beach portion. The Town of Diamond Bluff would not likely improve the beach in the foreseeable future due to monetary constraints.

4.2 ALTERNATIVES ELIMINATED DURING PLANNING

The only other practical alternatives reviewed were different locations from which to obtain dredged material for the project. Sites other than those listed were eliminated because distances from the beach site would have increased material transportation costs.

4.3 SELECTED ALTERNATIVE

The selected alternative is to place dredged material at an average thickness of about 2.5 feet at the proposed beach site at Sea Wing Park (Figure 2). This would require about 2500 cubic yards of coarse sand dredged material. The material would be placed by mechanical means from barges and may require minor access dredging. Access dredged material would

likely be less than 100 cubic yards and would be placed on the beach site. No dredged material would be placed in the water. The work would be completed during the open-water season, likely during June of 2004.



Figure 2. Conceptual Sea Wing Park Plan Being Undertaken By The Town of Diamond Bluff

5.0 ENVIRONMENTAL EFFECTS

5.1 SOCIAL AND ECONOMIC EFFECTS

5.1.1 NOISE

There would be some noise from construction equipment during the placement of material. This effect would be temporary and minor. The no-action alternative would have no effect on noise.

5.1.2 AESTHETICS

Some people may view the completed proposed project as a detriment to the aesthetic quality of the river. However, it is likely that most people will view the improved beach site as having improved aesthetics. The no-action alternative would have no effect on aesthetics.

5.1.3 RECREATION

The proposed project would have a minor positive effect on recreation. While Sea Wing Park would be utilized under the no-action alternative, the proposed project would increase its recreational value. The no-action alternative would have no effect on recreation.

5 1 4 COMMUNITY COHESION

The proposed project would have a minor positive effect on community cohesion as the town of Diamond Bluff would feel a sense of accomplishment in enhancing Sea Wing Park. The no-action alternative would have a minor negative effect on community cohesion.

5.1.5 ENVIRONMENTAL JUSTICE

Environmental Justice is a national goal and is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The proposed project would be constructed on public lands; no acquisition of private lands would occur. Public involvement, via distribution of information concerning the proposed project, has and will continue to be an integral part of planning for this project to ensure that concerns of all people will be fully considered in the decision making process.

5.1.6 PUBLIC FACILITIES AND SERVICES

The proposed project would have a minor beneficial effect on public facilities and services by enhancing an existing public park. The no-action alternative would have no effect on public facilities and services.

5.2 NATURAL RESOURCE EFFECTS

5.2.1 AIR QUALITY

The proposed project would have a temporary minor negative effect on air quality due to the operation of construction equipment. The no-action alternative would have no effect on air quality.

5.2.2 TERRESTRIAL HABITAT

The proposed project would have a minor negative effect on terrestrial habitat due to the placement of about 2.5 feet of sand that would not readily support a diversity of terrestrial organisms. The no-action alternative would have no effect on terrestrial habitat.

5.2.3 WETLAND HABITAT

The proposed project would cover existing floodplain forest wetland habitat including some small areas of willow and sedge-wetland areas. Approximately, one-fifth of an acre of bottomland forest would be covered with an average of 2.5 feet of sand. The functionality of the existing wetland habitat is limited by its size and lack of species diversity and the proposed action would have a minor adverse effect on wetland habitat at the project site and in pool 3. The no-action alternative would have no effect on wetland habitat. For a more information on wetland impacts see the attached Section 404(b)(1) evaluation.

5.2.4 AQUATIC HABITAT

The proposed project would have a temporary minor negative effect on aquatic habitat if access dredging is required. The aquatic habitat would quickly recover once construction is complete and the dredged area resumes its natural dynamic equilibrium. The no-action alternative would have no effect on aquatic habitat.

5.2.5 BIOLOGICAL PRODUCTIVITY

The proposed project would have a minor negative impact on biological productivity due to the unsuitability of sand as a substrate for growing plants and the associated human activity on the beach. The effect would be minor because the current biological productivity of the site is low. The no-action alternative would have no effect on biological productivity.

5.2.6 SURFACE WATER QUALITY

The proposed project would have a temporary minor negative impact on surface water quality if access dredging is required. This activity would result in the resuspension of sediment that would travel a short distance downstream. However, this effect would be short lived and, due to the fast resettling of the coarse textured substrate, would affect a small area. The noaction alternative would have no effect on surface water quality.

5.2.7 AQUATIC AND TERRESTRIAL ORGANISMS

If access dredging is not required to complete the project, there would be a very minor and temporary negative effect on aquatic organisms due to construction disturbance. If access dredging is required, benthic aquatic organisms in the access channel would be killed during dredging. However, few native mussels were collected in the area that would be dredged and any other aquatic invertebrates would quickly recolonize the access channel.

The proposed project would have no effect on large mobile terrestrial organisms but would have a negative effect on small and immobile organisms that would be covered by the placement of material on the beach site. The effect would be minor because the number and diversity of affected organisms would be very small.

The no-action alternative would have no effect on aquatic and terrestrial organisms.

5.2.8 THREATENED AND ENDANGERED SPECIES

It is the St. Paul District's determination that there would be no project related impacts to any Federally threatened or endangered species. The U.S. Fish and Wildlife Service concurs with this determination (see Correspondence).

5.3 CULTURAL RESOURCE EFFECTS

The Corps completed a Phase I cultural resource investigation on April 22, 2004, for the Sea Wing Park beach in Diamond Bluff, Wisconsin. Following a literature review, the Project area was subjected to pedestrian survey, hydraulic coring (Geoprobe), and shovel/auger testing. Investigation results indicate the Project area has been disturbed to approximately 69 cm below the modern ground surface across the Project. Modern debris is scattered across the surface and within near surface sediments across the Project area, although it does not constitute significant resources and is derived from disturbed contexts. No cultural material or buried soils were identified below the buried surface. The Corps has determined the Project will have no adverse effect on historic properties. Therefore, no additional cultural resource work is recommended.

5.4 CUMULATIVE IMPACTS

The proposed plan would be an addition to the existing Recreational Beach Management Plan for Pool 3 and Upper Pool 4, dated December, 1998. The proposed project would increase the number of beach sites recommended for improvement in Pool 3 from 7 to 8. This would provide a minor benefit to the overall recreational utility of Pool 3. The cumulative impacts to natural resources in Pool 3 would be negligible because the proposed site is currently of low ecological value, is a old dredge material placement site, and covers a small area.

6.0 COORDINATION

A site visit occurred on 31 July 2003 with representatives of the Wisconsin Department of Natural Resources (WDNR), U.S. Fish and Wildlife Service, Corps of Engineers, and the Town of Diamond Bluff in attendance. Coordination with the WDNR has occurred throughout the study. Coordination with the Wisconsin State Historic Preservation Office (SHPO) is in progress.

In Wisconsin, public law prohibits the placement of dredged material below the ordinary high-water mark and requires a permit for discharge of an effluent. A legislative exemption has been passed for Great River Environmental Action Team (GREAT) recommended placement sites and is administered through a Memorandum of Understanding (MOU) between the Corps and the Wisconsin Department of Natural Resources. Prior to construction, the proposed project site would be added to the MOU and any other necessary State permits would be obtained.

The draft environmental assessment was sent to interested citizens and the agencies listed below. Significant issues raised will be addressed following the review process.

U.S. Environmental Protection Agency U.S. Fish and Wildlife Service Wisconsin Department of Natural Resources Minnesota Department of Natural Resources Minnesota Pollution Control Agency Town of Diamond Bluff

REFERENCES CITED

Madigan, Thomas and Ronald C. Schirmer. 2001. Geomorphological Mapping and Archaeological Sites of the Upper Mississippi Valley, Navigation Pools 1-10, Minneapolis, Minnesota to Guttenburg, Iowa. Reports of Investigation Number 522, prepared for the US Army Corps of Engineers, St. Paul District. Hemisphere Field Services, Inc., Minneapolis.

Pleger, Thomas C. 1995. A Phase I Archaeological Survey of the Floodplain of Pool No. 3 of the Upper Mississippi River Valley. Reports of Investigations No. 206, prepared for the US Army Corps of Engineers, St. Paul District. Mississippi Valley Archaeological Canter, La Crosse.

Table 1. Environmental Assessment Matrix.

Section 122 of the River and Harbor and Flood Co	ontrol A	ct of 1	1 970 (1	Public	Law	91-61	1)										
				MA	GNIT	UDE (OF PE	ROBA	BLE 1	EFFE	CTS						
	N	NO-ACTION ALTERNATIVE SELECTED ALT									ALT	TERNATIVE					
	BEN	EFIC	IAL		ADVERSE			BENEFICIAL				ΑI	OVERS	SE			
	Ţ	AL		Т		AL	٧T	ΛŢ	AL		Т		AL	ΙŢ			
	SIGNIFICANT	SUBSTANTIAL	OR	NO EFFECT	OR	SUBSTANTIAL	SIGNIFICANT	SIGNIFICANT	SUBSTANTIAL	OR	NO EFFECT	OR	SUBSTANTIAL	SIGNIFICANT			
	EE	STA	MINOR	EF	MINOR	STA	E	MEI	STA	MINOR	EF	MINOR	STA	E			
	SIG	UB	_	NO	~	UB	SIG	SIGI	UB,	_	8	_	UB	SIG			
PARAMETER	01	S				S		3 1	<u> </u>				S				
A. SOCIAL EFFECTS	1	1	ı			ı							1				
1. Noise Levels				X								X					
2. Aesthetic Values				X						X							
Recreational Opportunities				X						X							
4. Transportation				X							X						
5. Public Health and Safety				X							X						
6. Community Cohesion (Sense of Unity)					X					X							
7. Community Growth and Development				X							X						
8. Business and Home Relocations				X							X						
9. Existing/Potential Land Use				X							X						
10. Controversy				X							X						
B. ECONOMIC EFFECTS																	
1. Property Values				X							X						
2. Tax Revenue				X							X						
3. Public Facilities and Services				X						X							
4. Regional Growth				X							X						
5. Employment				X							X						
6. Business Activity				X							X						
7. Farmland/Food Supply				X							X						
8. Commercial Navigation				X							X						
9. Flooding Effects				X							X						
10. Energy Needs and Resources				X							X						
C. NATURAL RESOURCE EFFECTS													l.				
1. Air Quality				X								X					
2. Terrestrial Habitat				X								X					
3. Wetlands				X								X					
4. Aquatic Habitat				X								X					
Habitat Diversity and Interspersion				X							X						
6. Biological Productivity				X								X					
7. Surface Water Quality				X								X					
8. Water Supply				X							X						
9. Groundwater				X							X						
10. Soils				X							X						
11. Threatened or Endangered Species	1			X							X						
D. CULTURAL RESOURCE EFFECTS				71							71		<u> </u>				
Historic Architectural Values				X							X						
Prehistoric and Historic Archeological Values	1 1			X							X						
2. 1 remstoric and mistoric Archeological values				Λ							Λ						

Environmental and Economic Analysis Branch Planning, Programs and Project Management Division

DRAFT FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, the St. Paul District, Corps of Engineers, has assessed the environmental impacts for the following proposed project:

SEA WING PARK RECREATION BEACH MANAGEMENT PLAN DIAMOND BLUFF, WISCONSIN

The proposed project would be implemented under the authority of the River and Harbor Acts of January 21, 1927, and July 3, 1930. These authorize the operation and maintenance of a 9-foot navigation channel on the Upper Mississippi River. The project would consist of the placement of about 2600 cubic yards of dredged material on the beach site to enhance its recreational value.

This Finding of No Significant Impact is based on the following factors: the proposed project would have a minor short-term negative effect on air quality, noise levels, aquatic habitat, and surface water quality; minor long-term negative effects on terrestrial habitat, wetland habitat, and biological productivity; minor long-term positive effects on aesthetic values, recreational opportunities, community cohesion, and public facilities and services; and no impact on threatened and endangered species or the cultural environment.

The environmental review process indicates that the proposed action does not constitute a major Federal action significantly affecting the quality of the environment. Therefore, an environmental impact statement will not be prepared.

	Robert L. Ball
Date	Colonel, Corps of Engineers
	District Engineer

CORRESPONDENCE

From: Gary_Wege@fws.gov

Sent: Wednesday, May 12, 2004 3:00 PM

To: Clark, Steven J

Subject: Pool 3 Recreation Beach Mgmt. Plan

Dear Steve:

This responds to your letter dated May 5, 2004, requesting information on federally threatened and endangered species for the proposed Sea Wing Park Project on the Upper Mississippi River at River Mile 800.35L in Diamond Bluff, Wisconsin. The project involves placement of approximately 2,600 cubic yards of dredged material for beach enhancement and is part of the Recreational Beach Management Plan for Pool 3.

We concur with your determination that the above referenced project will not affect any federally listed or proposed threatened or endangered species or adversely modify their critical habitat. This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. However, if the project is modified or new information becomes available which indicates that listed species may occur in the affected area, consultation with this office should be reinitiated.

We appreciate the opportunity to comment and look forward to working with you in the future. If you have questions regarding our comments, please call me at (612) 725-3548, extension 207.

Gary J. Wege Fish & Wildlife Biologist

FWS ID #10646

CEMVP-CO-CH 12 March 2004

MEMORANDM FOR Record

SUBJECT: Pool 3, Diamond Bluff, Sea Wing Park (RM 800.35 LDB)

1. A meeting was held today with the City of Diamond Bluff to discuss modifying the Pool 3 Upper Pool 4 Recreational Beach Management Plan, specifically modifying the plan to include the newly, city-acquired Sea Wing Park beach area. The following folks attended (see attached sign-in sheet, page 2):

John Norquist, Resident, Diamond Bluff Bob Wagner, Resident, Diamond Bluff Jeff Holst, Town Board Paul Machajewski, COE Kevin Berg, COE Jim Marquardt, COE

- 2. The purpose of the meeting was to look specifically at the beach area and determine to what extent dredged material could be placed at the site.
 - 3. The following is a list of conclusions:
 - a. The boundaries of the beach were staked-off. These boundaries roughly match the plan developed for the city by UW-River Falls student, Jim Tousignant. See attached, page 3.
 - b. It was determined that the beach could use roughly 2.5' of sand on average.
 - c. The city will clear the unwanted vegetation from the area. The COE's contractor can push the remaining stumps over as necessary.
 - d. The city will contact NSP/Prairie Island Power Plant to notify them of the park plans. From there, it will be determined what needs to be done with the NSP/Prairie Island Power Plant monitoring buoy, land anchor and power line (currently located within beach limits along shoreline).
 - e. The COE will perform the necessary Environmental Assessment needed for including this beach in the Beach Plan.
 - f. Depending on equipment used to perform barge unloading, minimal access dredging may be required (less than 100cy).
 - 4. Please contact me if you have any questions.

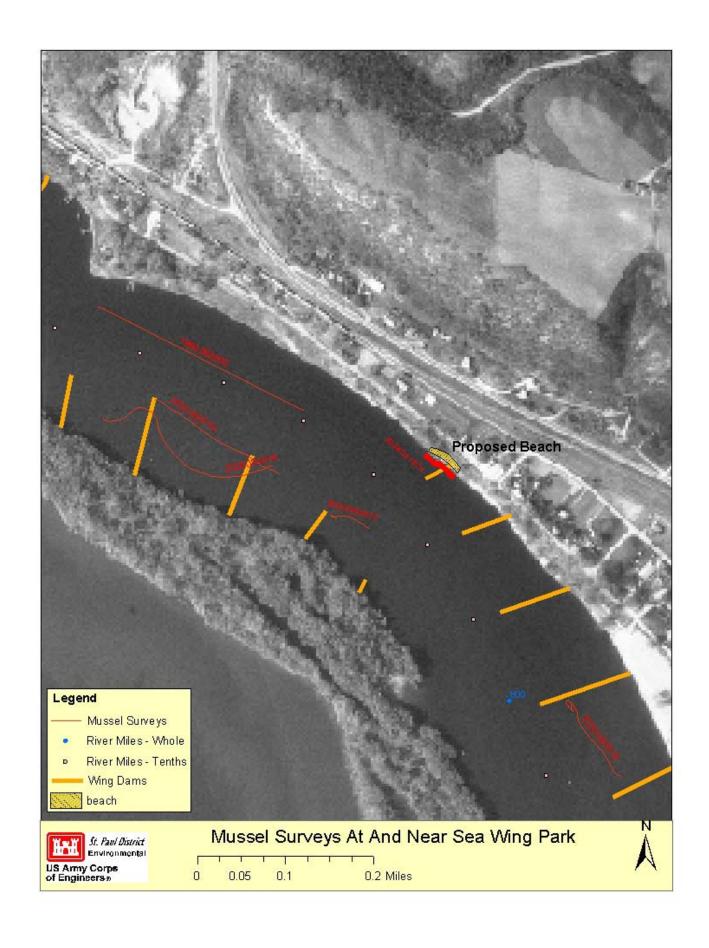
Paul Machajewski Channel Maintenance Coordinator

ATTACHMENTS

Attachment 1: Mussel survey table and figure Attachment 2: Section 404(b)(1) evaluation.

Attachement 1. Sea Wing Park Beach Plan - Mussel Survey Data

	STATUS						Survey ID Number											
SPECIES	COMMON	FED	WI	MN	IA	2004041501	1994062903	2000060816	2000060817	2000060818	2000091414							
Ligumia recta	BLACK SANDSHELL			SC														
Ellipsaria lineolata	BUTTERFLY		E	T	T													
Truncilla truncata	DEERTOE																	
Lampsilis siliquoidea	FAT MUCKET																	
Truncilla donaciformis	FAWNFOOT																	
Anodonta suborbiculata	FLAT FLOATER																	
Leptodea fragilis	FRAGILE PAPERSHELL					2												
Anodonta grandis	GIANT FLOATER																	
Obovaria olivaria	HICKORYNUT			SC														
Lampsilis higginsi	HIGGINS' EYE	Е	E	Е	E													
Taxolasma parvus	LILLIPUT																	
Quadrula quadrula	MAPLELEAF																	
Quadrula metanevra	MONKEYFACE		Т	Т														
Actinonaias ligamentina	MUCKET			Т														
Anodonta imbecillis	PAPER FLOATER																	
Fusconaia flava	PIGTOE					6												
Quadrula pustulosa	PIMPLEBACK					3		1										
Potamilus alatus	PINK HEELSPLITTER																	
Potamilus ohiensis	PINK PAPERSHELL					2		1		1								
Tritogonia verrucosa	PISTOLGRIP		Т	Т	E													
Lampsilis cardium	POCKETBOOK					7		1										
Arcidens confragosus	ROCKSHELL		T	E	E													
Pleurobema coccineum	ROUND PIGTOE			T														
Elliptio dilatata	SPIKE			SC														
Strophitus undulatus	STRANGE FLOATER				T													
Obliquaria reflexa	THREEHORN					10		6		7	1							
Amblema plicata	THREERIDGE					2		2		5	1							
Quadrula nodulata	WARTYBACK		T	E														
Megalonaias nervosa	WASHBOARD			T														
Lasmigona complanata	WHITE HEELSPLITTER																	
Lampsilis teres	YELLOW SANDSHELL		E	E	E													
		X		X														
Sur	W	S	S	S	S	S												
	0.5	-	7.0	7.0	7.0	6.0												
		Minin Maxin		_	` ′	4.0	_	10.0	10.0	10.0	10.0							



SECTION 404(b)(1) EVALUATION

SEA WING PARK RECREATION BEACH MANAGEMENT PLAN POOL 3, UPPER MISSISSIPPI RIVER May 2004

I. PROJECT DESCRIPTION

- **A.** <u>Location:</u> Dredged material would be placed at one site in Pool 3 of the Upper Mississippi River at river mile 800.35 on the left descending bank at the Town of Diamond Bluff, Wisconsin.
- **B.** General Description: The Recreation Beach Management Plan for Pool 3 and Upper Pool 4 was completed in December, 1998. The plan included an evaluation of the condition of sandy beach recreation areas in Pool 3 and Upper Pool 4 of the Upper Mississippi River. The suitability of potential sites for beach improvement were evaluated based on the following factors: existing substrate, adjacent water depth, ground slope, vegetative cover, aesthetics, accessibility, proximity to other features in the pool, and ownership. Following site selection, strategies for improving and enhancing areas were developed to provide safe and enjoyable beach sites for the recreating public while protecting the natural environment. Under that plan, site number 18 at Diamond Bluff, Wisconsin was identified from river mile 800.4L (left descending bank) downstream to about river mile 799.6L. It was addressed as a potential site for beach enhancement; however, it was dropped from consideration because it was under private ownership. Since then, the town of Diamond Bluff has purchased some of this property and has requested assistance from the St. Paul District for beach enhancement. The plan presented here is for Sea Wing Park at river mile 800.35L in Diamond Bluff, Wisconsin. The plan is being drafted as an addition to the 1998 beach management plan

The proposed plan is to place dredged material at an average thickness of about 2.5 feet at the proposed beach site at Sea Wing Park. This would require about 2500 cubic yards of coarse sand dredged material. The material would be placed by mechanical means from barges and may require minor access dredging. Access dredged material would likely be less than 100 cubic yards and would be placed on the beach site. No dredged material would be placed in the water. The work would be completed during the open-water season, likely during June of 2004. The dredged material is primarily sand and would be obtained during maintenance dredging activities in the 9-foot navigation channel.

C. <u>Authority and Purpose:</u> Federal authorities for this project are the River and Harbor Acts of January 21, 1927, and July 3, 1930. These authorize the operation and maintenance of a 9-foot navigation channel on the Upper Mississippi River.

The purpose of the project is to enhance the beach site at Sea Wing Park for the benefit of the public with the use of dredged material in a cost-effective manner.

D. General Description of Dredged or Fill Material

- 1. <u>General Characteristics of Material:</u> Material placed at the site would be from historic dredge cuts in Pool 3. Material dredged from historic cuts in pool 3 are comprised largely of fine and medium grained sands. Data collected between 1974 and 1994 show these materials tend to have less than 5 percent silt- or clay-sized particles and less than 10 percent very fine sand. Material from these dredge cuts would be suitable for beach enhancement.
- **2. Quantity of Material:** An estimated total of 2600 cubic yards of material would be required to complete the project. About 100 cubic yards of the total may come from access dredging to the placement site.
- **3.** <u>Source of Material:</u> Material placed at the site would be dredged material from either the Diamond Bluff, Coulters, or Morgans Coulee dredge cuts in Pool 3, whichever would require dredging first.

E. <u>Description of the Proposed Discharge Sites</u>

- 1. <u>Location</u>: The proposed beach site is at river mile 800.35L.
- 2. Size: The proposed beach site covers an area of about one-fifth of an acre.
- **3.** <u>Type of Site/Habitat</u>: The beach site had been used in the past for placement of dredged material. Currently the site is bottomland forest habitat with small interspersed patches of willow and sedge wetland habitat. The site is being developed as a public park and has been and will continue to be disturbed through use and maintenance activities.
- **4.** <u>Timing and Duration:</u> The placement would most likely occur in the summer of 2004 prior to July 1 and would be completed within about two weeks after initiation.
- **F.** <u>Description of Disposal Method:</u> The material would be placed with a mechanical dredge and would be shaped with mechanical equipment as needed.

II. FACTUAL DETERMINATIONS

A. Physical Substrate Determinations

- **1. <u>Substrate Elevation and Slope:</u>** The area that would be filled is at or above average pool elevation of 675.0 feet NGVD for Pool 3.
- **2.** <u>Substrate Changes:</u> Much of the substrate within the project area is relatively coarse and is old dredged material; therefore little change in substrate type is expected.
- **3.** <u>Dredged/Fill Material Movement:</u> The coarse fraction of the dredged material is not expected to move appreciably during or after dredging or placement. The silt and clay fraction would likely move out into the water column during placement. None of the dredge cuts potentially used as a source of material contain more than 5 percent silts or clays. The

material that would be dredged for access is also coarse material similar to that found within the dredge cuts.

- **4.** <u>Physical Effects on Benthos:</u> Benthic organisms that have colonized the area adjacent to the beach where access dredging may occur could be crushed, buried, or desiccated in some cases. Benthic organisms would be adversely affected during placement by the higher turbidity levels resulting from the return of the finer particles to the water column.
- **5.** <u>Actions Taken to Minimize Impacts:</u> Placement of dredged material would be done at a rate that would not cause turbidity levels to exceed those set by the state of Wisconsin. Turbidity levels are not expected to be significant as the dredged material used contains only minor amounts of fine materials. Best management practices would be used to minimize erosion from the site during construction.

B. Water Circulation and Fluctuation Determination

1. <u>Water:</u> The proposed project is not expected to have an appreciable effect on water chemistry. Results from sediment analyses of the dredge cuts show the dredged material to be relatively free of contaminants. Concentrations of metals, pesticides, PCB's and nutrients were within normal limits compared to other dredge cuts on the river (Table 404-1). In comparing data collected between 1974 and 1984 with data collected in 1989 and 1994, these concentrations did not change appreciably at any of the dredge cuts. The low quantity of silts and clays present in these cuts minimizes the opportunity for contaminants to resuspend in high concentrations during dredging and placement.

Short-term decreases in water clarity are expected as a result of the proposed activities. The increased turbidity that would occur during the placement of dredged material would be localized and would not have any long-term effects. Turbidity levels would not exceed those standards set by the state of Wisconsin for beach sites.

The proposed project is would have no appreciable effects on water color, odor, taste, dissolved oxygen levels, nutrients, eutrophication, or temperature.

- 2. <u>Current Patterns and Circulation:</u> The proposed project is expected to have a minor effect on the hydrologic regime of the beach site itself, and specifically at the small existing patches of willow and sedge wetland habitat. The hydrologic regime in these areas would be changed to a drier state due to the lower frequency of inundation induced by the slight increase in elevation. The project would have no effect on current velocity and patterns, stratification, or normal water level fluctuations.
- **3.** <u>Actions Taken to Minimize Impacts:</u> Because of the lack of effects, no special actions would be required to minimize the effects of the proposed project on current patterns or flow.
- C. <u>Suspended Particulate/Turbidity Determination:</u> The dredged material would contain suspendable particulates or organic matter. Disturbance of sediments will occur within

the dredge cut and near the beach site during construction, but any adverse impact would be short-term. Increased turbidity would be short-term and would not result in significant adverse effects. As stated previously, turbidity levels would be controlled by the rate of application of dredged material, and would be limited by the low percentage of fine material such as silts and clays expected to be present in the dredged material.

- **D.** <u>Contaminant Determinations:</u> The dredged material would include coarse materials from the riverbed as well as a minor fraction of silt and clay. No contaminated sediments would be placed on the site.
- **E.** Aquatic Ecosystem and Organism Determination: The proposed project would have minimal effects on the aquatic ecosystem and aquatic organisms. The dredged material placed at the beach site would be similar to material already on site. Existing wetland habitat at the site is of low quality with extremely low species diversity. Adverse effects, including an increase in turbidity at the placement sites, would be temporary.

The proposed project would have no effect on any federally listed threatened or endangered species or their critical habitat. The U.S. Fish and Wildlife Service concurs with this determination. Also, it is likely that no state-listed threatened or endangered species would be affected by the project.

Because of the limited nature of potential effects, no special actions would be taken to minimize impacts on organisms or the aquatic ecosystem.

F. Proposed Disposal Site Determinations

- 1. <u>Mixing Zone:</u> The proposed activity would have a minimal mixing zone. The particle size of a most of the dredged material would be large enough to remain where it is placed. The clay and silt portions of the dredged material are expected to be resuspended in the water column, however, silts and clays comprise less than 5 percent of the materials used for beach restoration. A very small, short-term mixing zone would occur in the immediate vicinity of the beach site.
- **2.** <u>Compliance with Applicable Water Quality Standards:</u> Controlling the rate of dredged material placement, and thus controlling the rate and amount of fine particles returned to the water column would be done so that State water quality standards would not be violated because of project-related activities. Short-term increases in turbidity would occur during construction. No long-term water quality impacts would occur.
- **3.** <u>Potential Effects on Human Use Characteristics:</u> Because of the present and projected human use characteristics, the existing physical conditions, the proposed construction methods, and the relatively clean dredged material, this proposed action would improve current human use characteristics by providing a beneficial use of dredged material for recreation. The proposed actions would have no adverse effects on municipal or private water supplies; recreational or commercial fisheries; navigation; or national historic monuments or

similar preserves. Coordination with the Wisconsin State Historic Preservation Office (SHPO) is in progress.

- **G.** <u>Cumulative Effects on the Aquatic Ecosystem:</u> No appreciable cumulative effects to the aquatic ecosystem are anticipated.
- **H.** <u>Secondary Effects on the Aquatic Ecosystem:</u> No significant secondary effects on the aquatic ecosystem would be expected from the proposed action.

Table 1. Sediment-quality data for dredge cuts near Sea Wing Park, Pool 3.

··u	DIC	1. '	Sediment-qu		ala io			Sileai	Sea v																		
			Record # River Mile	533 802.8	802.7	98 802.7	99 802.5	802.5	802.5	534 802.1	100 801.9	101 801.9	535 801.8	102 801.4	536 801.1	1360 800.0	1366 800.0	1363 800.0	103 800.0	538 800.0	537 800.0	800.0	799.5	104 799.2	799.2	799.0	798.5
			TUVET IVIIIC		COULTERS			COULTERS	COULTERS							000.0	000.0	000.0									
				MORGANS		COULTERS	COULTERS IS	IS MORGANS	IS MORGANS		COULTERS	COULTERS C	IS	COULTERS O		Ab. L/D 3 -	Ab. L/D 3 -	Ab. L/D 3 -	BLW DIAMOND	BLW DIAMOND	BLW DIAMOND	BLW DIAMOND	UPPER GOOSE	BLW DIAMOND	BLW DIAMOND	MID GOOSE	LOWER
			Location	COULEE	1	MORGANS		2	2dup			MORGANS N		MORGANS N		east	west	mid	BLUFF	BLUFF	BLUFF	BLUFF 1	LAKE		BLUFF 2	LAKE	LAKE
			Year System	1989	1994	1974	1981	1994	1994 1	1989	1978 1	1978	1989	1981	1989	1981	1981	1981	1981	1989	1989	1994	1994	1981	1994	1994	1994
			Habitat Type	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	3	1	1	3	3
			Pool	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
			Sam. Gear	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	1	1	1	1	1	1	1	1	1
			Sam. Depth	10			10	10	10	10		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
_	ug/kg		Data Cit. a-BHC	COE < 0.07	COE < 0.24	COE	COE	COE < 0.24	COE < 0.25	COE < 0.07	COE	COE	COE < 0.07	COE	COE < 0.07	MWCC	MWCC	MWCC	COE	COE < 0.08	COE < 0.08	COE < 0.24	COE 0.13	COE	COE < 0.24	0.13	COE 0.14
	ug/kg		b-BHC	< 0.14					< 0.25				< 0.15		< 0.15					< 0.16	< 0.15	< 0.24	0.13		< 0.24	0.13	0.27
	ug/kg		BHC	< 0.22	< 0.24			< 0.24	< 0.25	< 0.22			< 0.22		< 0.22					< 0.25	< 0.23	< 0.24	0.4		< 0.24	0.39	0.41
	ug/kg		g-BHC (lindane)		< 0.24				< 0.25				< 0.1		< 0.1					< 0.11	< 0.1		0.18		< 0.24	0.17	0.18
	ug/kg		Heptachlor	< 0.07	< 0.24			< 0.24	< 0.25				< 0.07		< 0.07					< 0.08		< 0.24	0.13		< 0.24	0.13	0.14
	ug/kg ug/kg		Aldrin Heptachlorepoxide	< 0.1						< 0.1			< 0.1		< 0.1					< 0.11	< 0.1		0.18			0.17	0.18
	ug/kg		Endosulfan I	< 0.12						< 0.12			< 0.12		< 0.12					< 0.14	< 0.13		0.22			0.21	0.23
	ug/kg		Dieldrin	< 0.12	< 0.48	< 10	< 0.1	< 0.47	< 0.49		0	0 <	< 0.12							< 0.14		< 0.49	0.22	< 0.1	< 0.49	0.21	0.23
S	ug/kg		4,4'-DDE	< 0.1			< 0.1		< 0.49		0		< 0.1		< 0.1				< 0.1			< 0.49	0.18		< 0.49	0.17	0.18
Ö	ug/kg		Endrin	< 0.22	< 0.48	< 10	< 0.1	< 0.47	< 0.49		0	0 <			< 0.22					< 0.25	< 0.23	< 0.49	0.4	< 0.1	< 0.49	0.39	0.41
I	ug/kg		Endosulfan II 4,4'-DDD	< 0.24	< 0.48	< 10	< 0.1	< 0 47	< 0.49	< 0.24	0	0 4	< 0.24		< 0.24				< 0.1	< 0.27	< 0.25	< 0.49	0.44	< 0.1	< 0.49	0.43	0.45
O	ug/kg ug/kg		Endrinaldehyde	< 0.26	< 0.48	< 10	< 0.1	< 0.47	< 0.49	< 0.26			< 0.27		< 0.27				< 0.1	< 0.3	< 0.28	< 0.49	0.49	< 0.1	< 0.49	0.47	0.5
	ug/kg		Sulfan sulfate	< 0.26						< 0.26			< 0.27		< 0.27					< 0.3	< 0.28		0.49			0.47	0.5
	ug/kg	1	4,4'-DDT	< 0.31	< 0.48	< 10	< 0.1	< 0.47	< 0.49	< 0.31	0	0 <		< 0.1	< 0.32				< 0.1	< 0.36	< 0.33	< 0.49	0.57	< 0.1	< 0.49	0.56	0.59
	ug/kg		Methoxychlor	< 0.53				1		< 0.53			< 0.54		< 0.54					< 0.6	< 0.56		0.97			0.94	0.99
	ug/kg		Endrinketone Chlorodane	< 0.26	< 0.24	< 10			< 0.25	< 0.26	0		< 0.27		< 0.27					< 0.3	< 0.28	< 0.24	0.49		< 0.24	0.47	0.5 2.71
	ug/kg ug/kg		Toxaphene	< 1.44	< 0.24	< 10	< 1	< ∪.24	< U.25	< 1.44	0		< 1.46		< 1.46					< 1.64	< 1.52	< ∪.24	2.65	< 1	~ ∪.24	2.57	2.71
H	mg/kg		Ag (silver)													0.167	0.069	1.07									
	mg/kg		Al (aluminum)													0.167	0.009	1.07									
	mg/kg		As (arsenic)	< 1	1	< 0.9	10	1.5		< 1	0	0	< 1	6	< 1	2.53	0.53	1.07	10	< 1.2	< 1.1	0.81	2.5	17	1.1	5.1	3.8
	mg/kg		B (boron)					1																			
	mg/kg		Ba (barium)				30				10	20		20		0.175	0.127	0.14	30					20			
	mg/kg mg/kg		Be (beryllium) Cd (cadmium)	< 1.1	< 0.11	< 1	< 1	0.25		< 1.1	< 10	< 10	< 1.1	< 1	< 1.1	0.175	0.127	0.14	< 1	< 1.3	< 1.2	< 0.12	< 2.2	< 2	0.37	< 2.2	< 2.3
	mg/kg		Cr (chromium)	5.5		5	< 10	6.9		19.4		< 10	6.6	< 10	5	18.3	7.7	9.4	< 10	7.9	5.4	5.8	25.3	< 10	6.5	26.2	24.6
S	mg/kg		Cu (copper)	1.8	1.3	3	3	2.3		4.4	< 10	< 10	3.7	2	1.9	6.8	2.2	2.6	3	4.4	3.2	1.4	14.2	3	2	20.7	19.2
	mg/kg		Fe (iron)				2800				3700	2300		2900					3000					2200			
<	mg/kg		Hg (mercury)	< 0.01	0.13	0.5	< 0.01	< 0.04		< 0.01	0	0.04 <	< 0.01	< 0.01	< 0.01	0.03	0.02	0.01	< 0.01	< 0.01	< 0.01	< 0.04	< 0.22	< 0.01	0.12	< 0.22	< 0.23
Н	mg/kg mg/kg		Mg (magnesium) Mn (manganese)	3170	181		190	325		356	160	160	270	190	169				170	562	370	192	1010	130	221	1150	1100
Σ	mg/kg		Mo (molybdenum)																								
	mg/kg	1	Ni (nickel)	< 5.5	5	3	< 10	6.3		10			< 5.5	< 10	< 5.6	10.2	5.5	4.2	< 10	7.1	< 5.8	4.5	21.3	< 10	4.7	24.2	17.9
	mg/kg		Pb (lead)	2	4.7	< 9	< 10	2.7		1.9	< 10	< 10	3.8	< 10	6.9	9.1	4.2	3.3	< 10	4.1	14.9	3.2	8.8	< 20	3.2	18.2	17.3
	mg/kg		Sb (antimony) Se (selenium)	< 0.85									< 0.84			0.40	0.40			< 1			< 1.8				
	mg/kg mg/kg		Sn (tin)	. 0.05						< 0.85		•	. 0.04		< 0.85	0.13	0.13	0.11			< 0.89		V 1.0			< 1.7	< 1.8
	mg/kg		Sr (strontium)																								
	mg/kg		Ti (titanium)																								
	mg/kg		Zn (zinc)	18.1	11.8	76	15	15.5		22.7	20	10	20.1	15	14.4	33.1	15.8	13.9	18	26.4	19.9	12.4	74.8	16	13.9	107	75
_	mg/kg		V (vanadium)																								
	ug/kg ug/kg		Aroclor-1006 Aroclor-1221	< 1.44	< 4.8			< 4.7		< 1.44			< 1.46		< 1.46					< 1.64	< 1.52 < 1.52	< 4.9	2.65		< 4.9	2.57	2.71
S	ug/kg		Aroclor-1232	< 1.44	< 4.8			< 4.7	< 4.9				< 1.46		< 1.46					< 1.64	< 1.52	< 4.9			< 4.9	2.57	2.71
ă	ug/kg		Aroclor-1242	< 1.44	< 4.8			< 4.7	< 4.9				< 1.46		< 1.46					< 1.64	< 1.52	< 4.9	2.65		< 4.9	2.57	2.71
ပ	ug/kg		Aroclor-1248	< 1.44	< 4.8			< 4.7	< 4.9	< 1.44			< 1.46		< 1.46					< 1.64	< 1.52	< 4.9	2.65		< 4.9	2.57	2.71
₽.	ug/kg		Aroclor-1254	< 3				< 4.7	< 4.9	< 3			< 3.05		< 3.05					< 3.43	< 3.18	< 4.9	5.53		< 4.9	5.35	5.65
	ug/kg		Aroclor-1260 Total PCB's	< 3	< 4.8	0		< 4.7	< 4.9	< 3	0	0	< 3.05	0	< 3.05				0	< 3.43	< 3.18	< 4.9	5.53	0	< 4.9	5.35	5.65
	ug/kg	1	3 in			U	100	—			U	100		100					U					U			
ш	1	Φ	3 in 1 1/2			100	100	1			100	100		100					100					100			
z	1	s	3/4			100	100	1			100	100		100					100					100			
-	1	_	3/8			100	100	1			100	100		100					100					100			
ш		oa	4	96.878	99.1	100	99	98		99.84	100	100 9	98.4027	100	99.4601					99.5146	98.926	100		100	99.4		
%	٥	o	8 10	94.471	93.8	98	95	95.8		99.243	98	aa c	96.4716	9.7	98.1938				95	96.8648	82.5677	99.7		96	91.9		
ш	z		16	91.0	55.0	81.0	82.0	,,,,		93.0	94.0		89.1		94.9				89.0	91.7	79.5	221		83.0			
Z		Ε	20		88.8			86.2				91.0		84.0								96.3			88.0		
-	⋖	n p	30	71.7		53.0		1		48.6	76.0		62.4		75.7				69.0	67.9	66.6			49.0			
S	١	0	40	_	66.5	14.0	8.0	31.0			53.0	59.0		49.0					52.0			65.8		28.0	62.1		
	S	E e	50 70	71.7		0.0				48.6	17.0		62.4		75.7				21.0	67.9	66.6			9.0			
П	1	_	80	8.6		5.0		1		3.8	2.0	1.0	9.2	2.0	7.6				3.0	21.7	19.6			2.0			
0	1	-	100	0.6	1.2	0.0	0.0	1.0		0.5	0.0		0.3		0.7				0.0	7.8	5.0	1.5		0.0	4.3		
-	<u> </u>	+	140	0.6	0.8			0.9		0.5			0.3		0.7					7.0	4.7	1.0			3.1		
-		≻	200 270	0.5	0.5	0.0	0.0	0.3		0.4	0.0	0.0	0.2	1.0	0.5				0.0	5.2 3.7	3.9	0.6		0.0	2.7		
Α	_	_	0.20 mm	0.3		0.0	0.0	1			0.0	0.0		0.0	0.3				0.0	3.0	2.5			0.0			
۵	S	O	0.05 mm	0.3		0.0	0.0				0.0	0.0		0.0	0.2				0.0	2.0	1.6			0.0			
	%		Total Organic Carb	0.28	0.022			0.026	0.026	0.25			0.086		0.13					0.69	0.42	0.03			0.054		
	mg/kg	,	Chem Oxy Demand	0.28	0.022	1500	431	0.026	0.026	0.25	2200	2200	0.000	2200	0.13				2700	0.09	0.42	0.03		2400	0.034		
	mg/kg		Kjedahl Nitrogen			244	235	1			422	300		260					242					249			
O	mg/kg		Total Phosph				247	1				110		260													
S	mg/kg		Oil and Grease			0	< 6	5 T			100	0		0					100					0			
Ξ	mg/kg mg/kg		Cyanide, Total Ammonia	< 0.62	< 0.06			1		0.62		*	0.62		< 0.63					< 0.82 43.00	< 0.73	< 0.06	< 1.1		< 0.06	< 1.1	< 1.1
-	mg/l	,	Ammonia Elutriate	0.30	< 0.06			< 0.06	< 0.06	0.23			0.50		. 0.23						24.00	< 0.06	204.00		< 0.063	88.00	249.00
	%		Moisture	19.8	17.8			14.2	16.0	19.8			19.6		20.9					38.7	31.2	21.4			21.7		
	%		Total Solids	80.2	82.2			85.8	84.0	80.2			80.4		79.1					61.3	68.8	78.6			78.3		40.5
	%		Volatile Solids	0.8	1.0			0.9	1.0	0.6			0.7		0.6					3.4	2.1	0.9	6.7		1.1	8.4	11.8

III. FINDING OF COMPLIANCE WITH RESTRICTIONS ON DISCHARGE

- 1. No significant adaptations of the guidelines were made relative to this evaluation.
- 2. The proposed fill activity would comply with the Section 404(b)(1) guidelines of the Clean Water Act. The placement of fill is required to provide the desired benefits.
- 3. There are no practical and feasible alternatives to the placement of fill in the proposed sites that would meet the objectives and goals of this project.
- 4. The proposed fill activity would comply with State water quality standards. The disposal operation would not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
 - 5. The proposed projects would not harm any endangered species or their critical habitat.
- 6. The proposed fill activities would not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing. The proposed activities would not adversely affect plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic life and other wildlife would not be adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity, and stability and on recreational, aesthetic, and economic values would not occur.
- 7. To minimize the potential for adverse impacts, the following actions would be taken:
 1) Placement of dredged material would be done at a rate that would not cause turbidity levels to exceed those set by the state of Wisconsin; 2) Best management practices would be used to minimize erosion from the site during construction.
- 8. On the basis of this evaluation, I specify that the proposed disposal site complies with the requirements of the guidelines for discharge of fill material.

	Robert L. Ball
Date	Colonel, Corps of Engineers
	District Engineer